

# Adamation

EG-7  
OPERATION,  
MAINTENANCE  
AND REPAIR  
INSTRUCTIONS

ADAMATION, INC.  
P.O. BOX 37  
87 Adams Street  
Newton, MA 02195  
PRINTED IN U.S.A.

PART NUMBER: 99-9000-010  
Price: \$7.50  
Revised December 1987



### WARRANTY

Your Adamation Rotary Burnisher is guaranteed for one. Within twelve months of the date it is put into operation we will repair any defect in materials or workmanship. Adamation normally ships warranty parts via ground shipment from its factory in Newton, MA with Adamation assuming the ground shipment charges. If the customer elects to utilize an express method of shipping, then the customer shall pay the difference in cost between express shipping charges and ground shipping charges. Guarantee service may be obtained by contacting the Adamation National Service Department. Toll free phone 800-225-3075.

Because Adamation has no control over the quality, quantity and timeliness of the compounds supplied to the machine or over the methods of operation, the following items are not covered by this guarantee:

1. Burnishing balls that become rusty or discolored.
2. Cost of cleaning.
3. Damage caused by unreasonable neglect and carelessness in operation.

Replacement parts are guaranteed for ninety days or for the remainder of the guarantee, whichever is longer.

## TABLE OF CONTENTS

## WARRANTY

## SECTION 1 INTRODUCTION

Machine Description.....	Page 3
Machine Specifications.....	Page 3
Basic Functioning.....	Page 3
Accessories.....	Page 3&4

## SECTION 2 INSTALLATION

Packaging Information.....	Page 4
Machine Assembly.....	Page 4

## SECTION 3 OPERATION

General.....	Page 6
Control Switch.....	Page 6
Opening The Burnishing Drum.....	Page 7
Fill Procedure.....	Page 7
Preparing The Burnishing Solution.....	Page 7
Loading Pieces To Be Burnished.....	Page 7
Changing The Burnishing Solution.....	Page 9
Silverware Processing.....	Page 9
Preparation of New Silverware.....	Page 10

## SECTION 4 THEORY OF BURNISHING

The Burnishing Process.....	Page 10
How The Rotary Burnisher Works.....	Page 11

## SECTION 5 MAINTENANCE

General.....	Page 11
Preventive Maintenance.....	Page 12
Cleaning The Burnishing Balls.....	Page 13
Rust On The Burnishing Balls.....	Page 13

## SECTION 6 ILLUSTRATED PARTS LIST

General.....	Page 14
Ordering Information.....	Page 14-16

## SECTION 1 INTRODUCTION

This manual contains information for installation, operation, and maintenance of the model EG-7 Burnisher. The theory of burnishing is also explained. Each replaceable part is identified in a parts list with reference to exploded views showing the locations of each.

### MACHINE DESCRIPTION

The model EG-7 Burnisher is a portable device for use in burnishing silver and silver plated flatware and hollow-ware. The machine consists of three sections: a removable rotary burnishing drum, a mounting frame and an enclosed drive.

### BURNISHING DRUM

The machine is equipped with a lift-out rotary burnishing drum having inside dimensions of 11 1/2 inches by 7 1/2 inches, accommodating 100 pieces of flatware in a single loading. A complete supply of 25 lbs. of 1/4-inch diameter steel burnishing balls are included. Rapid loading and unloading is provided by a removable cover fastened by means of two quick-acting lever latches. With the cover in place, the drum becomes a watertight chamber for burnishing.

### MOUNTING FRAME

A mounting frame provides for support of the entire machine and maintains alignment of the burnishing drum with the drive assembly. The frame supplies support for mounting the Burnisher on any table or countertop work area, without the need for physical attachments.

### DRIVE ENCLOSURE

All electrical and drive assemblies are contained within the protective drive enclosure. The enclosure is attached to the mounting frame and need not be removed during operation or preventive maintenance.

### BASIC FUNCTIONING

The burnishing function is accomplished in the rotating burnishing drum loaded with 1/4-inch-diameter steel burnishing balls. Silverware is burnished by contact with the moving balls. A detailed explanation of the theory of burnishing is presented in Section 4.

### ACCESSORIES

A brief description of each accessory available for use with the EG-7 Burnisher follows. For specific ordering information see Section 6, Illustrated Parts List.

### Portable Stand:

Though the Burnisher can be placed for operation on any table top, an optional stand is available. The stand, equipped with casters, allows the machine to be moved with ease to and from the work area and stored under a standard bench or table. See Figure 1 for description and assembly.

### Drain Cover:

An aid in changing the burnishing solution, the drain cover retains burnishing balls in the drum when the spent solution is drained out. The drain cover is easily installed in the same fashion as the drum cover. This accessory can only be used with 1/4 inch diameter burnishing balls. A drain cover can be purchased for the cost which is incurred in replacing half of the media, should accidental spilling require replacement. For details of application, see Section 3-Solution Change With Optional Drain Cover.

## SECTION 2 INSTALLATION

### PACKAGING INFORMATION

The model EG-7 Burnisher is shipped in a single cardboard carton complete with 25 lbs of burnishing balls loosely loaded into the burnishing drum. Also contained inside the carton is a one-gallon container of EG Burnishing Liquid.

The one-gallon container of EG Burnishing Liquid supplied with the machine is sufficient for initial operation of the Burnisher. Extra liquid for subsequent use is available as an additional item, shipped in individual cartons of four one-gallon containers. For ordering information see Section 6, Illustrated Parts List.

### MACHINE ASSEMBLY

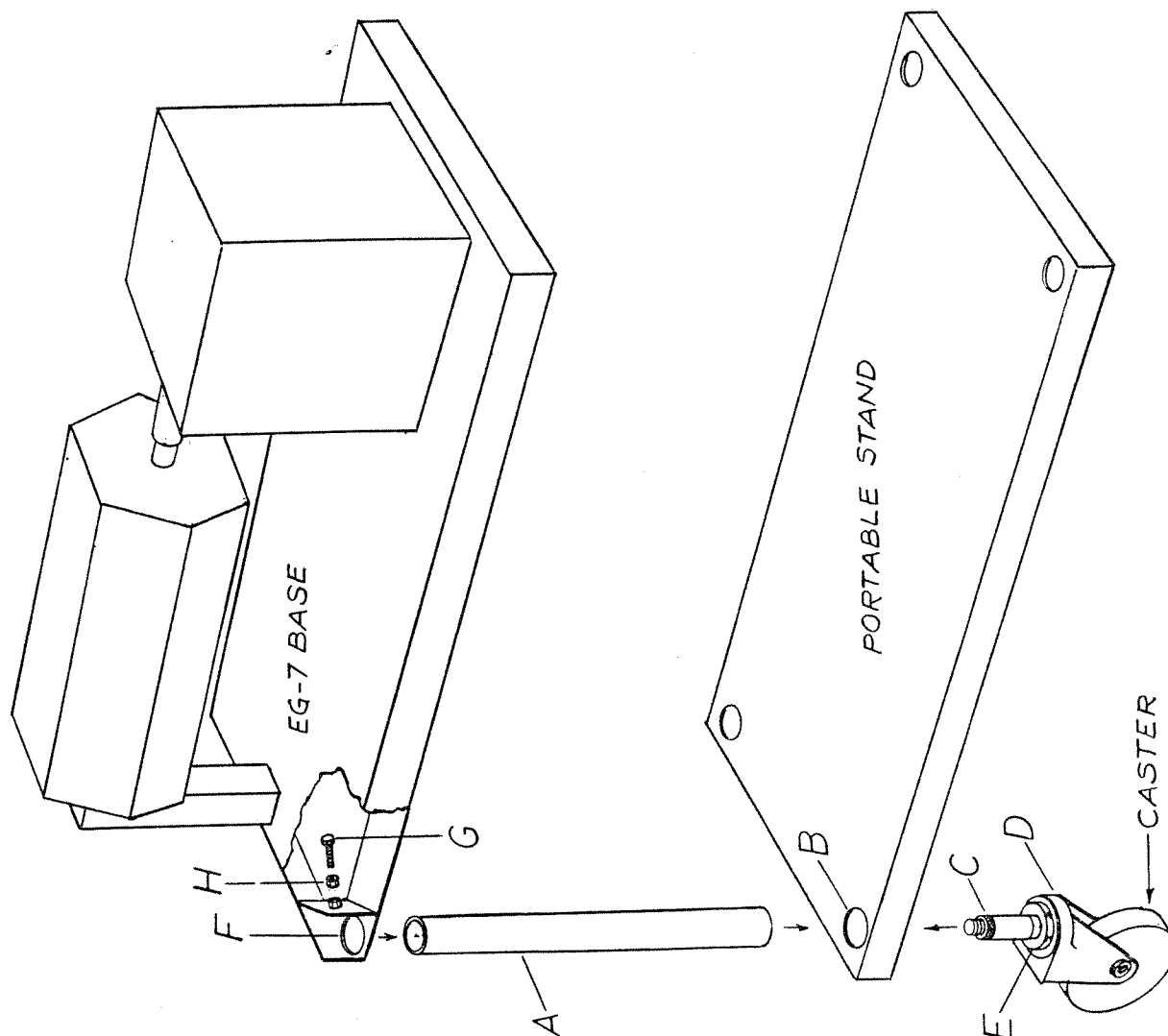
When shipped, the burnishing drum is not mounted in the drive and frame assemblies. Remove both the drum and the drive and frame assembly from the carton before mounting the drum in place. The drum is installed with the male end-shaft engaged in the female-ended drive shaft. The flat-ended shaft rests in the cradle of the mounting frame. See Figure 2 showing mounting of the drum.

### PREPARING FOR OPERATION

Because this Burnisher is a portable model, installation is accomplished by simply placing the machine on any countertop or on an optional portable stand. The location selected must provide access to an electric wall outlet providing service as specified on the machine identification plate. Standard domestic machines require 120-volt, 60-cycle, grounded service. The machine is equipped with an eight-foot-long power cord.

# INSTALLATION INSTRUCTIONS

1. Push Tubing (A) in hole (B) until it stops
2. Finger tighten slightly knurl nut (C) on caster (D)
3. Push caster (D) in tubing (A)
4. Tighten caster nut (E)  
Repeat 1-2-3-4 on all corners
5. Set EG-7 base on top of tubings (A) thru holes (F)
6. Lock tubings (A) w/ $\frac{1}{2}$ -20x3/4 lg screw (G)
7. Lock screw (G) w/nut (H)  
Repeat 6-7 on all corners



EG-7 OPTIONAL PORTABLE STAND  
FIGURE 1

### SECTION 3 OPERATION

#### GENERAL

Consult this section before attempting initial operation and as a subsequent guide to the use of the Burnisher. For initial operation, first complete the procedures contained in Section 2, Installation.

#### CONTROL SWITCH "OFF"

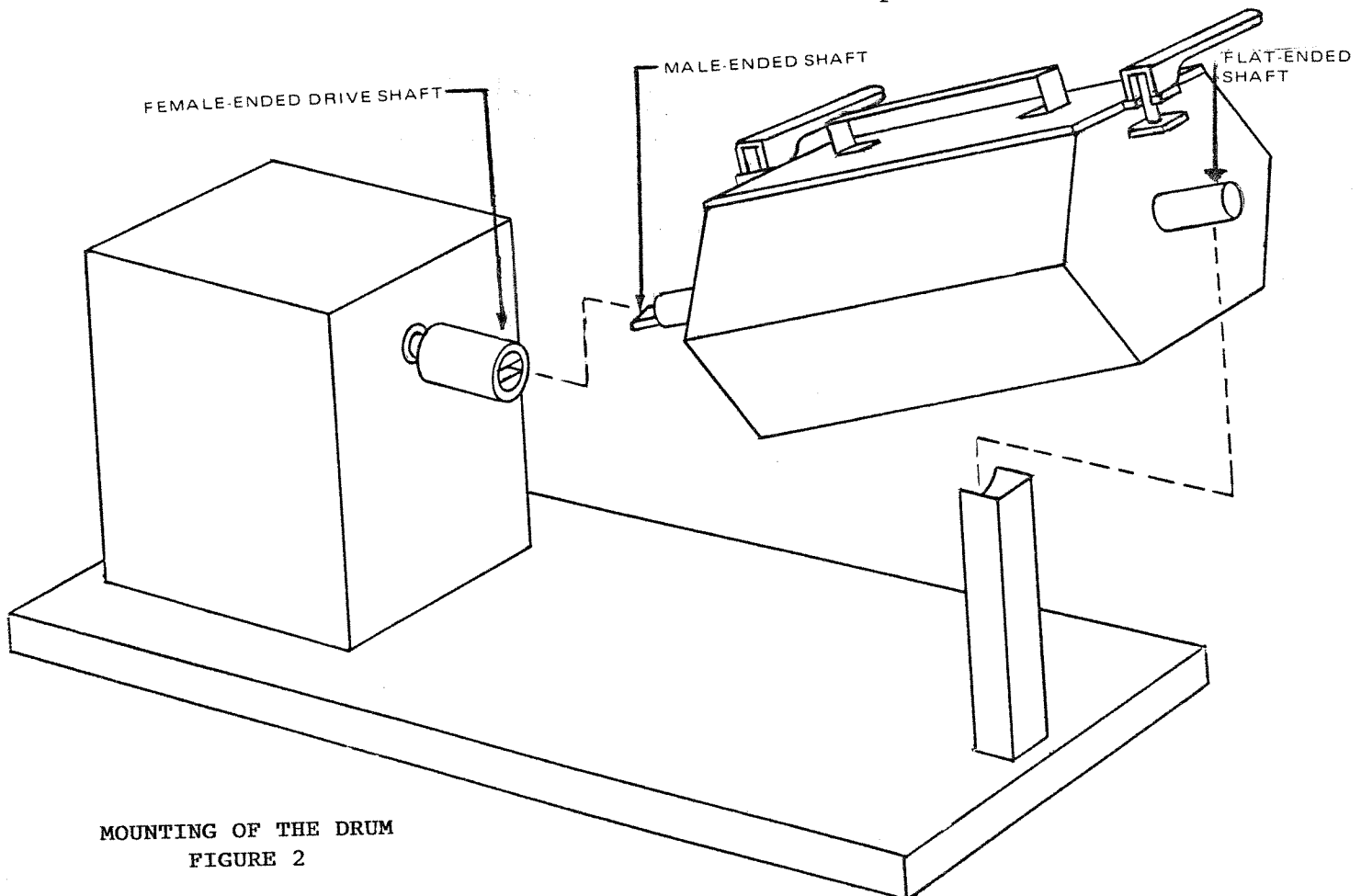
Make sure that the control switch located on the motor housing is in the "OFF" position. Plug the power cord into any wall outlet providing the correct voltage as specified on the machine identification plate. (Standard domestic machines require 120-volt, 60-cycle, grounded service.)

#### CAUTION:

Before operating the machine, be sure that the drum cover is sealed in place with the two latches in the locked (down) position. Loss of the burnishing balls can result from failure to seal the drum correctly.

#### CONTROL SWITCH

The standard model is equipped with a control switch. Placing this switch in the "ON" position will begin rotation of the burnishing drum. Rotation of the drum continues until the switch is returned to the "OFF" position.



MOUNTING OF THE DRUM  
FIGURE 2



### OPENING THE BURNISHING DRUM

The cover must be at the top position before opening. With the power connected, positioning of the cover is easily accomplished by momentarily starting and stopping the machine until the cover is located at the top. Final adjustments can be made by twisting the drum by hand.

### WARNING:

Operation of the Burnisher sometimes results in pressurization of the burnishing drum. To prevent splashing of the operator with compound solution, release this pressure slowly by releasing one of the latches on the side of the cover away from the operator.

To open the drum, the cover is released from the sealed position by lifting upward on the red handled latches. The cover is disengaged from the latches by sliding it backwards until the slotted cover tabs have cleared the latch posts. See Figure 3 showing self-locking latch and cover operation.

### FILL PROCEDURE

Proper operation of the Burnisher requires that care be exercised in filling the burnishing drum. The procedure for filling includes preparation of the burnishing solution and loading of silverware to be burnished.

### PREPARING THE BURNISHING SOLUTION

Preparation of the solution for burnishing is accomplished in the drum.

1. Add cold tap water to the burnishing balls in the drum until the water level above the balls reaches a depth of one inch. This amount of water will fill the drum half way.

2. Add two ounces of Adamation EG Rotary Burnishing Liquid, Adamation part number 65-7400-506. Local water conditions will cause the required amount to vary slightly.

It is not necessary to mix the liquid before loading the drum for burnishing. If burnishing is not to be completed immediately, it is necessary to mix the liquid as a means of protecting the burnishing balls from corrosion. Mix the liquid by operating the machine for 2 minutes.

### LOADING PIECES TO BE BURNISHED

Flatware or hollow-ware of silver, silver plate, or stainless steel is loaded into the burnishing drum. Maximum recommended capacity for flatware is 100 pieces. The capacity for hollow-ware depends upon the size of the pieces.

### CAUTION:

Never attempt to load for burnishing any pieces of aluminum, pewter, or similar

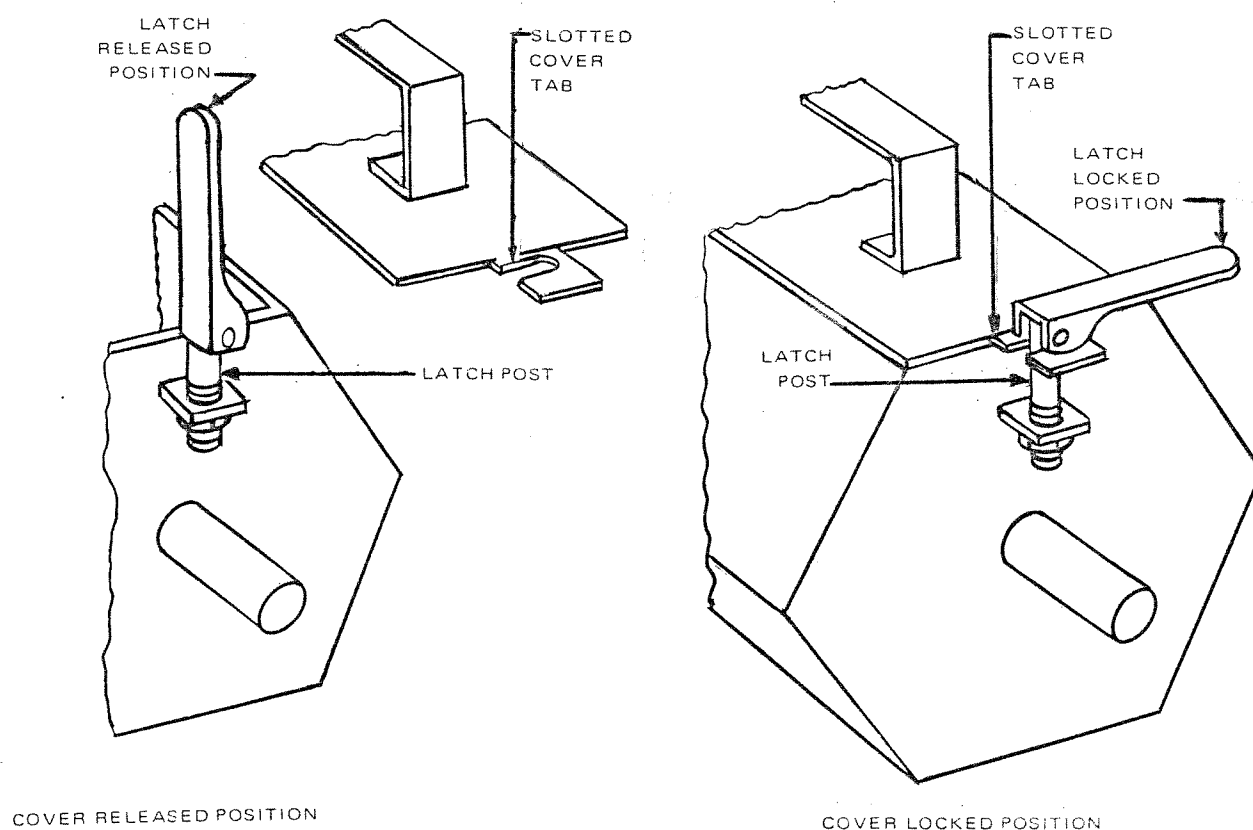
metals. Never load for burnishing any silver, silver plate, or stainless steel which has not been cleaned of tarnish and food soil and thoroughly rinsed. Metal compounds and soil put into the solution not only reduce the solution's life but also cause the balls to become covered with a coating which inhibits burnishing.

#### MACHINE OPERATION

Before operating the burnisher, always check to be sure that the drum cover is securely fastened, as shown in Figure 3. The latch handles must be in the locked (down) position without protruding beyond the ends of the burnishing drum.

Standing clear of the burnishing drum, place the control switch in the "ON" position. Silver and silver plate which is burnished on a regular schedule may be sufficiently burnished to renew luster after only 15 minutes of operation. Silverware in poorly burnished condition will require more time. As much as six hours may be needed for removing deep scratches. Silverware is not damaged by burnishing for longer periods than required to renew luster.

Stainless steel requires longer operating time than silver. First inspection of stainless can be made after 1 1/2 hours of operation. Eight or more hours of operation may be required to renew deeply scratched stainless steel.



SELF-LOCKING LATCH AND COVER OPERATION  
FIGURE 3

### CHANGING THE BURNISHING SOLUTION

Good results can be expected from the Burnisher only if it is operated with clean burnishing solution. The solution must be changed when it becomes dark in appearance. With normal use, this is after eight hours of operation (Approximately 5 loads).

### SOLUTION CHANGE PROCEDURES

To change the burnishing solution, perform the following steps:

1. Remove all silverware from the drum and replace the cover on the drum.
2. Making sure that the cover is securely locked in place, remove the drum from the machine by simultaneously lifting upward and away from the drive enclosure.
3. Place the drum into a utility sink. Remove the cover from the drum and flood the balls with fresh tap water. While flooding, agitate the balls by hand to ensure that all the balls are flushed.
4. When water flows clean from the drum, spill out all but enough water to submerge the balls to a depth of one inch. (Drum will be half filled.)

### CAUTION:

Do not allow the burnishing balls to spill into the utility sinks drain. Sink traps are easily blocked by a small quantity of balls.

5. Remove the drum cover and add two ounces of Adamation EG Rotary Burnishing Liquid to replenish the burnishing solution as previously explained.

### CAUTION:

To prevent rusting, never leave the burnishing balls exposed to air. They must always be submerged in EG Liquid solution.

6. Replace the cover on the drum and set the drum back into the Burnisher, as shown in Figure 2.
7. If the machine is not to be used immediately, it is necessary to mix the EG Liquid into the solution by operating the machine for 2 minutes.

### SOLUTION CHANGE WITH OPTIONAL DRAIN COVER

Use of an optional drain cover makes solution changing easier. Instead of flooding and agitating the balls, the drain cover, installed on the drum, allows the spent solution to be poured from the drum. Repeated filling and emptying of the drum with fresh water flushes the balls quickly and prevents accidental spilling.

### SILVERWARE PROCESSING

For the best maintenance of silverware, it is recommended that a routine burnishing schedule be followed. Required frequency of burnishing depends upon the silverware utilization rate and the tarnish and scratch resistance of the specific silver. Maintaining silver in sufficiently burnished condition can increase its life and facilitate washing. Burnishing is best considered as one step in the total processing of silverware. Complete processing includes the following:

1. Washing - Silverware must first be thoroughly washed of food soil and grease, all of which prevent contact of detarnishing agents with the surface.
2. Detarnishing - Through detarnishing, sulphide compounds of silver are removed from the silverware. Chemical detarnishing agents are available through local suppliers or Adamation. For ordering information see Section 6, Illustrated Parts List. (For information about Adamation detarnishing sinks, consult the factory.)
3. Rinsing - Detarnishing solutions must be completely removed from the silverware before the silverware is loaded into the burnishing drum. Residue can damage the silverware by becoming embedded into the soft metal surface.
4. Burnishing - Through burnishing silverware becomes highly polished and surface-hardened. Burnished silverware exhibits a high luster and resists tarnishing.
5. Washing - Silverware must be thoroughly rinsed after burnishing to ensure sanitation.

#### PREPARATION OF NEW SILVERWARE

Some new silverware is coated with silver rouge when purchased. This rouge coating which cannot be seen on the silverware combines chemically with the burnishing solution to leave a blue-gray residue on the silver. Before loading new silverware for burnishing, always wash it to remove as much of the coating as possible. The coating of silver rouge which remains, even after washing, will still result in the formation of residue during burnishing. This residue is removed by a second washing.

### SECTION 4 THEORY OF BURNISHING

#### THE BURNISHING PROCESS

Burnishing is a process which combines polishing and surface hardening without utilizing abrasives which remove metal. Though a metal may appear to exhibit an even uninterrupted surface, it is in reality composed of tightly packed individual grains. The principal of burnishing provides that the hardness and shininess of metals can be enhanced through manipulation of the surface metal.

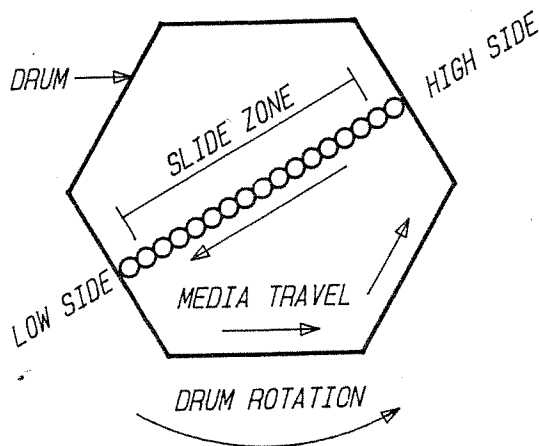
An examination of the structure of a well burnished piece of silverware reveals a smooth surface. The surface is free of scratches and residue of silver sulfides (tarnish). Through normal use, metalware receives multiple small scratches. In addition, sulfur dioxide in the air acts upon the edges of scratches to make them jagged and raised. The result is metalware which exhibits low luster and a rough surface texture.

The burnishing process corrects the imperfections resulting from normal use by repeatedly striking the metalware with smooth, heavy objects - the burnishing balls. The balls roll down raised scratches while slipping surface metal to fill depressions. At the same time these imperfections are being removed, the metalware surface is being flushed of small amounts of silver sulfide not removed in detarnishing.

The result of this "compacting" of the metal surface is a smooth "work hardened" surface which not only improves the appearance of the silver but also makes it more scratch resistant and easier to clean.

### HOW THE ROTARY BURNISHER WORKS

In the model EG-7 Burnisher, highly polished 1/4-inch-diameter steel burnishing balls are used. The mass of steel balls is placed in motion by the hexagonal burnishing drum. An unbalance results from the mass being lifted up on one side of the drum while being pushed down on the opposite side. The result is a continuous sliding of the mass from the high to low side, thus creating an area called the "slide zone". It is in this zone that individual steel balls have the greatest striking force for burnishing. See Figure 4 for a diagrammatic description.



MEDIA MOTION DIAGRAM  
FIGURE 3

Silverware in the drum is caused to travel with the mass of balls, repeatedly being carried into the slide zone. Burnishing of the silverware results from the collective effect of multiple impacts with the balls in the zone. The force of contacts of silverware with other silver are not injurious when they occur in a sliding action. Impacts received between silverware in an overloaded drum arise through cascading of silver, and can be damaging to the soft silver metal. GOOD RESULTS ARE OBTAINED FROM THIS MACHINE ONLY WHEN OPERATED AT OR BELOW THE RECOMMENDED LOADING LEVEL.

The EG Liquid and water solution play a two-part role in the burnishing process. First, as a lubricant, it ensures easy motion of the mass of balls and silverware, thus preventing damaging abrasion. Second, as a cleaning agent, the solution carries sulfides and other foreign elements away from the silver surface. The limited capacity of the solution for holding these elements requires that it be changed at regular intervals as recommended in Section 3.

## SECTION 5 MAINTENANCE

### GENERAL

This section contains both preventive and corrective maintenance information. Preventive maintenance is limited to little more than cleaning, all of which can be performed by the operator. Corrective maintenance can be performed by maintenance personnel. For aid in corrective maintenance, consult the National Service Department. (See Section 6)

## PREVENTIVE MAINTENANCE

Maintaining clean burnishing solution is extremely important to the correct functioning of this machine. Sufficiently frequent replacement of the burnishing solution ensures that time consuming cleaning of the burnishing balls will not be necessary.

## MACHINE CLEANING

Thorough cleaning of the entire machine should be completed after each period of operation. Cleanliness of the exterior of the burnishing drum and other machine parts is accomplished by wiping with a mild soap solution which removes dirt and burnishing solution spill stains. Rinse with clear water.

## SHINING MACHINE PARTS

The appearance of the stainless steel parts can be improved by removing grease marks such as finger prints, which remain even after washing. Application of lemon oil or a spray-on furniture polish is suitable for this purpose.

## SAFETY

Safety stopping is inherently provided by the design of the shaded pole in-line drive motor. The motor should be turned off immediately following a "jam" since continuing power to a "jammed" motor will damage the motor.

## COVER SEALING AND ADJUSTMENT

Sealing of the burnishing drum with the cover is effected by a gasket attached to the cover. Correct alignment of the cover assembly with the drum is maintained by the two self-locking latches. These parts are shown as items (11), Figure 5. The explanations in this section will provide aid in the event that these parts fail to seal.

## COVER LATCH ADJUSTMENT

Machines are equipped with self-locking latches (11). The self-locking latch is adjusted to compensate for collapsing of the cover gasket as it ages. Adjustment is made by loosening the 5/16 nut and rotating the latches clockwise until sufficient pressure is applied to compress the gasket. Tightening the nut holds the latch in adjustment.

## CAUTION:

Never adjust the latches so that the handles are perpendicular to the axis of the drum. Handles so adjusted can cause the drum to become jammed with the motor cover.

## GASKET REPLACEMENT

When the gasket becomes excessively worn or damaged, sealing may not be possible. To replace, all traces of the worn gasket are stripped off. The replacement cover

gasket (14), is installed with the sponge rubber side cemented to the cover, the smooth side out. Gasket cement is applied to the cover and to the gasket separately and the cement allowed to dry until the surface is no longer tacky. A sheet of kraft paper placed between the cover and the gasket allows the cover to be carefully centered on the gasket before the cemented sides bond together. Remove the paper and attach the cover to the gasket by application of pressure for a twelve-hour period.

#### DRIVE ASSEMBLY REPAIR

Access to the drive assembly is gained by removal of the motor cover (10) shown in Figure 5.

The gearhead motor (7) is replaced when either the motor or the gearhead box becomes faulty. These parts are not separately replaceable.

#### CLEANING THE BURNISHING BALLS

Burnishing balls can become coated with metal compounds through failure to change the burnishing solution as specified, or through burnishing of certain other metals other than silver or stainless steel. Soiled balls exhibit low luster resulting from surface coating with black residue. Coated balls produce poor burnishing results.

Burnishing balls are cleaned by operating the machine with EG Liquid solution as specified for operation in Section 3. No silverware is loaded into the drum during the cleaning period. Progress of cleaning is checked at 30-minute intervals until the solution appears clouded. After repeatedly changing the solution, the balls will regain their original luster. The completion of cleaning is followed by a thorough flushing of the balls and replenishing of the liquid solution.

#### RUST ON THE BURNISHING BALLS

Burnishing balls exposed to the air, plain water or chemicals other than EG Liquid can become rusted. An immediate inspection should be made of the balls in rusted condition to determine if reclamation is possible. Rust is evidenced by the characteristic reddish-brown coating.

#### DESTROYED BALLS

Balls in this category have deep pits and breaks in the external surface as well as a heavy coating of rust. Even if rust is removed from the balls in this condition, it will not produce satisfactory burnishing results. These balls should be removed from the drum and replacement balls ordered. Preserve your balls by covering them at all times with a mixture of EG Liquid and water.

#### CAUTION:

Do not leave rusted balls in the burnishing drum. Extreme rusting causes fusing of the balls into a single mass which cannot be removed.

NOTE:

Attention should be given to the routine ordering of Adamation EG Rotary Burnishing Liquid (Adamation part number 65-7400-506), to ensure that the operating supply is never depleted.

PREPARATION OF THE BALLS FOR STORAGE

Submersion of the burnishing balls in EG Liquid solution provides protection from rusting. If the Burnisher is to be placed in storage, as is the custom in seasonal restaurant business, it will be necessary to leave the balls in this condition for an extended length of time. A clean, double strength solution of liquid which completely submerges the balls will protect them from rusting for a full 12-month period - even through freezing. It is essential that the cover be securely fastened in place to eliminate evaporation.

## SECTION 6 ILLUSTRATED PARTS LIST

GENERAL

This section contains a complete listing of normally replaceable parts of the model EG-7 Burnisher. Reference numbers coincide with those of the labelled part in the exploded view. Full information for ordering includes the Adamation part number, description and quantity required to complete one unit. Common hardware items should be purchased locally.

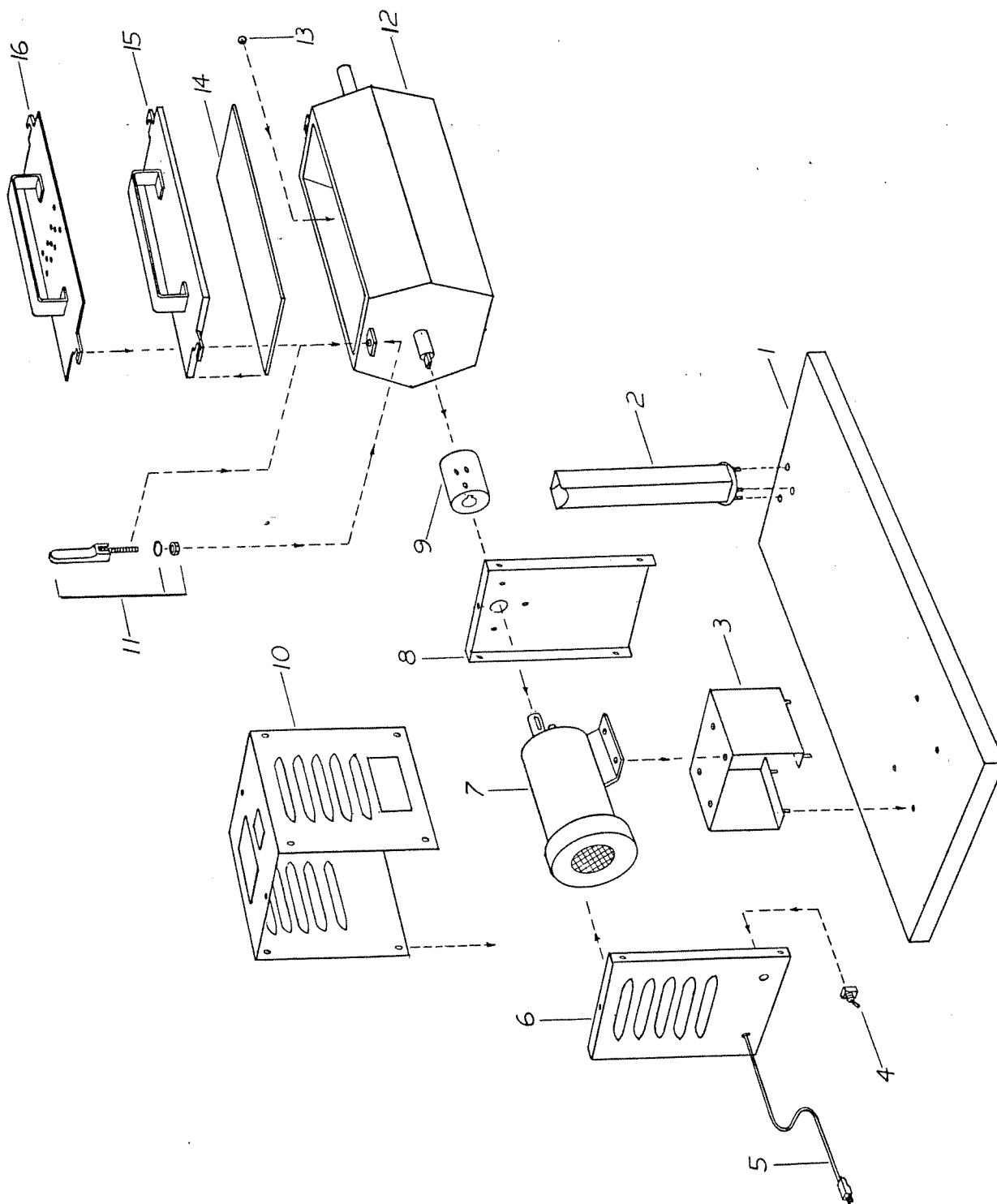
## ORDERING INFORMATION

Orders for replacement parts should be addressed to:

Adamation, Inc.  
National Service Department  
87 Adams Street  
P. O. Box 37  
Newton, Mass. 02195  
(617) 244-7500  
(800) 225-3075

The order should contain the Adamation part number, the part description and the quantity required.





EG-7 ILLUSTRATED PARTS LIST  
FIGURE 5

## ILLUSTRATED PARTS LIST-FIGURE 5

ITEM NUMBER	PART NUMBER	DESCRIPTION	QTY PER ASSY
1	CONSULT FACTORY	BASE - EG-7	1
2	12-1419-200	BARRELL SUPPORT POST W/BEARING	1
3	CONSULT FACTORY	MOTOR BRACKET	1
4	55-7400-302	SWITCH, CONTROL, TOGGLE, 115 V	1
5	55-1060-301	CORD, SWITCH, 8' LONG	1
6	32-1418-902	PANEL, REMOVABLE, MOTOR COVER, S/S	1
7	55-5002-003	MOTOR, 1/2 HP-GRAINGER #3M128	1
8	CONSULT FACTORY	MOTOR END PANEL	1
9	22-1417-000	HUB-MOLDED-MOTOR TO BARREL	1
10	32-1418-901	PANEL, REMOVABLE, MOTOR COVER, S/S, SPECIAL	1
11	12-1420-100	LATCH ASSEMBLY, SELF LOCKING, W/HARDWARE	2
12	32-1419-100	DRUM, S/S-VINYL COATED	1
13	65-7300-010	BURNISHING BALLS, 1/4" DIAMETER	25#
14	19-4202-500	GASKET, DRUM	1
15	22-1419-000	COVER, DRUM, S/S	1
16	22-1419-600	DRAIN LID (OPTIONAL)	1
	32-1418-000	PORTABLE STAND (OPTIONAL), SEE FIGURE 1	1

## ADAMATION EG ROTARY BURNISHING LIQUID

Adamation's EG Liquid is formulated for use specifically in rotary burnishers. Do not use it in Vibratory Burnishers.

Packed in cases of four one-gallon plastic bottles w/measuring cup.

PART NUMBER: 65-7400-506

## ADAMATION EG-7 BURNISHING BALLS (1/4")

EG-7 Total Capacity is 25 pounds.

25 pounds of 1/4-inch-diameter burnishing balls.

Packed in 25 lb sealed "rust inhibited" boxes.

PART NUMBER: 65-7300-010

## SILVER BLUE INSTANT DIP DETARNISHER

Packed in cases containing four one-gallon containers.

PART NUMBER: 65-7400-550